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(54) Title: PRECISION MEDICINE FOR ANXIETY DISORDERS: OBJECTIVE ASSESSMENT, RISK PREDICTION, PHARMACOGENOMICS, AND REPURPOSED DRUGS

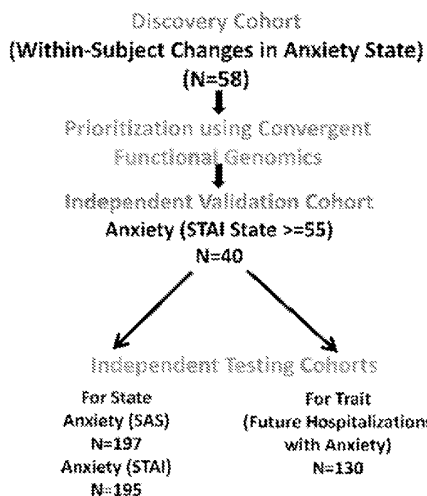


FIG. 1A

(57) Abstract: We used a powerful longitudinal within-subject design in individuals with psychiatric disorders to discover blood gene expression change between self-reported low anxiety and high anxiety states. We prioritized the list of candidate biomarkers with a Convergent Functional Genomics approach using other evidence in the field and validated our top biomarkers from discovery and prioritization in an independent cohort of psychiatric subjects with clinically severe anxiety. We then tested if these candidate biomarkers are able to predict anxiety severity state, and future clinical worsening (hospitalizations with anxiety as a contributory cause), in another independent cohort of psychiatric subjects. We showed increased accuracy of individual biomarkers with a personalized approach, by gender and diagnosis, particularly in women. Finally, we identified which of our biomarkers are targets of existing drugs and thus can be used for pharmacogenomic population stratification and measuring of response to treatment, as well as used biomarker gene expression signatures to identify drugs that can be repurposed for treating anxiety.

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